

In the Claims

Prior to examination, please withdraw without prejudice non-elected claims 18-28 as shown in the attached text of the pending claims. A complete listing of all claims in the application, indicating the status of each claim, is attached as required by 37 C.F.R. § 1.121(c).

1. (Original) A modular wide-range microwave communications unit comprising:

a precalibrated IF module having IF circuitry and an IF module memory operable for storing calibration values for the IF circuitry;

at least one precalibrated RF module having RF circuitry and an RF module memory operable for storing RF calibration values for the RF circuitry.

2. (Original) The communications unit of claim 1, wherein the precalibrated RF module is an RF transmit module comprising an RF transmit circuitry and an RF transmit module memory operable for storing RF transmit calibration values for the RF transmit circuitry.

3. (Original) The communications unit of claim 1, wherein the precalibrated RF module is an RF receive module comprising an RF receive circuitry and an RF receive module memory operable for storing RF receive calibration values for the RF receive circuitry.

4. (Original) The communications unit of claim 1, wherein the precalibrated IF module further comprises IF transmit circuitry comprising plural IF transmit attenuators, IF receive circuitry comprising plural IF receive attenuators, an IF module memory, and a processor and instructions, the processor being operably configured to execute the instructions during operation of the communications unit, being operably coupled to the IF module memory and RF module memory, the instructions comprising transmit instructions for controlling the IF transmit circuitry based on IF transmit calibration values stored in the IF module memory and controlling the IF receive circuitry based on IF receive calibration values stored in the IF module memory.

5. (Original) The communications unit of claim 1, further comprising a radio processing unit which comprises the precalibrated IF module and precalibrated RF module, and a signal processing unit having a modem, the signal processing unit operably coupled to the radio processing unit.

6. (Original) A microwave communications system, comprising plural communications units of claim 5, wherein plural radio processing units are operably coupled via wireless communications links to other radio processing units; and plural signal processing units are operably coupled via a wireline network.

7. (Original) A modular wide-range microwave communications unit comprising plural precalibrated modules, each having a module memory operable for storing calibration values for at least one of the group of transmit IF circuitry, transmit RF circuitry, receive IF circuitry, and receive RF circuitry.

8. (Original) The communications unit of claim 7, wherein a first precalibrated module comprises an RF transmit module comprising RF transmit circuitry and an RF transmit module memory operable for storing RF transmit calibration values for the RF transmit circuitry.

9. (Original) The precalibrated RF module of claim 8, wherein the RF transmit circuitry comprises an attenuator, an IF detector and an RF detector, and the RF transmit module memory is operable for storing calibration values for the attenuator and IF and RF detectors.

10. (Original) The communications unit of claim 7, wherein one of the plural precalibrated modules is an RF receive module comprising an RF receive circuitry and an RF receive module memory operable for storing RF receive calibration values for the RF receive circuitry.

11. (Original) The RF receive module of claim 10, wherein the RF receive circuitry comprises an attenuator and the RF receive module memory is operable for storing calibration values for the attenuator.

12. (Original) The unit of claim 7, wherein one of the plural precalibrated modules is an IF module comprising IF transmit circuitry and IF receive circuitry, an IF module memory, and a processor and instructions, the processor being operably configured to execute the instructions and be operably coupled to each module memory, the instructions comprising transmit instructions for controlling the IF transmit circuitry and receive instruction for controlling the IF receive circuitry based on IF transmit calibration values and IF receive calibration values stored in the IF module memory.

13. (Original) The communications unit of claim 12, wherein the plural precalibrated modules further comprise an RF transmit module and an RF receive module, the RF transmit module comprising RF transmit circuitry including an attenuator, an IF detector and an RF detector, and an RF transmit module memory operable for storing RF transmit calibration values for the RF transmit circuitry, and the RF receive module comprising RF receive circuitry

including a first receive attenuator and an RF receive module memory operable for storing RF receive calibration values for the first receive attenuator.

14. (Original) The communications unit of claim 13, wherein the IF transmit circuitry comprises a first digital attenuator coupled to a first analog attenuator, a first mixer coupled to the first analog attenuator, a second analog attenuator coupled to the first mixer, a second digital attenuator coupled to the second analog attenuator, and a transmit IF AGC coupled between the first digital and first analog attenuators, and wherein the instructions are operable for controlling attenuation by the attenuators of the IF transmit circuitry and RF transmit circuitry based on the IF and RF transmit calibration values.

15. (Original) The communications unit of claim 13, wherein the IF receive circuitry comprises a receive RSSI detector operably coupled to plural receive attenuators, the plural receive attenuators operably coupled to a second mixer, the second mixer operably coupled to a further attenuator, and the further attenuator coupled to a receive AGC detector, and wherein the instructions are operable for controlling attenuation by the attenuators of the IF receive circuitry and RF receive circuitry based on the IF and RF receive calibration values.

16. (Original) The communications unit of claim 12, further comprising a radio processing unit which comprises the precalibrated IF module and precalibrated RF module, and a signal processing unit having a modem, the signal processing unit operably coupled to the radio processing unit.

17. (Original) A microwave communications system, comprising plural communications units of claim 16, wherein plural radio processing units are operably coupled via wireless communications links to other radio processing units, and plural signal processing units are operably coupled via a wireline network.

Claims 18-28 (Withdrawn).

29. (Original) A precalibrated IF module operable in a modular wide-range microwave transceiver, the IF module comprising:

transmit IF circuitry and receive IF circuitry, and an IF module memory for storing IF calibration values for transmit and receive IF circuitry;

a processor and instructions, the processor being operably configured to execute the instructions and coupled to the IF module memory, and a RF transmit module memory and RF receive module memory, the instructions comprising:

transmit instructions for controlling the transmit IF circuitry and circuitry of the RF transmit module based on the IF calibration values and RF transmit calibration values, and receive instructions for controlling the receive IF circuitry and circuitry of the RF receive module based on the IF calibration values and RF receive calibration values..

30. (Original) A precalibrated RF module operable in a modular wide-range microwave transceiver, the RF module comprising one of the group of:

a precalibrated RF (radio frequency) transmit module having an RF transmit module memory for storing RF transmit calibration values for circuitry of the RF transmit

module, wherein the RF transmit module is operable together with a precalibrated transmit IF module having transmit IF circuitry, an transmit IF module memory for storing transmit IF calibration values for the transmit IF circuitry, and a transmit processor and instructions, the processor being operably configured to execute the instructions when coupled to the transmit IF module memory and RF transmit module memory, the instructions comprising transmit instructions for controlling the transmit IF circuitry and circuitry of the RF transmit module based on the transmit IF calibration values and RF transmit calibration values; and

 a precalibrated RF receive module having an RF receive module memory for storing RF receive calibration values for circuitry of the RF receive module, wherein the RF receive module is operable together with a precalibrated receive IF module having receive IF circuitry, an receive IF module memory for storing receive IF calibration values for the receive IF circuitry, and a receive processor and instructions, the processor being operably configured to execute the instructions when coupled to the receive IF module memory and RF receive module memory, the instructions comprising receive instructions for controlling the receive IF circuitry and circuitry of the RF receive module based on the receive IF calibration values and RF receive calibration values.

31. (Original) A modular wide-range microwave receiver comprising:
 - the precalibrated RF transmit module of claim 30;
 - the precalibrated RF receive module of claim 30; and
 - a precalibrated IF module comprising the precalibrated transmit IF module and precalibrated RF module, wherein an IF module memory forms both the transmit and receive IF module memories, and an IF module processor forms both the transmit and receive processors.